

# LABNOTES *Spring 2001*



## A Fresh Look at Laboratory Accreditation

There are times when a series of events coincide in such a way as to increase the likelihood of change. This is definitely a time of change here at the Wisconsin Laboratory Certification and Registration program. In fact, talk around here is of transition, streamlining and new opportunities. Why take a fresh look at how we operate the program and interact with our customers now?

One reason is all the new faces in the program. The hiring of a new Section Chief, a Primary Customer Service Contact and a Regional Auditor have the program fully staffed for the first time in a long while. With new leadership and new staff come new outlooks and ideas.

Another reason is the recent decision to not pursue authority to become a National Environmental Laboratory Accreditation Program (NELAP) accrediting authority at this time. We will continue to track NELAP's progress and will contribute to the process of reviewing and revising the NELAC standards. Also, the lessons learned from pursuing NELAP recognition will be used to help improve the way we do business.

Key to making the transition from a program focused on implementing NELAP to a program dedicated to improving laboratory accreditation under NR 149 is feedback from the laboratory community. The new Environmental Science Services Section Chief David Webb has emphasized the importance of customer feedback since his arrival. And the Certification Standards Review Council has made a commitment to serve as a conduit for laboratory input on administrative code and procedural revisions.

There are many reasons for optimism as we address the challenges ahead. Our budgeting process for Fiscal Year 2002 produced one of the leanest budgets in years. Increased efficiency is also possible in the area of reference sample providers. Labs now have more choices and there are few areas with "sole providers." Technology provides additional opportunities, especially in the area of e-government and electronic data transfer. Finally, some new and exciting ideas for incorporating a "systems" approach to auditing are being investigated. Many of these themes are expanded on in following sections of this newsletter.

You may notice that even this newsletter has a new look. We hope you like the new format. □

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## Introducing David Webb

Mr. David Webb was appointed Chief of the Environmental Science Services Section on March 12, 2001. He has been with the Department since 1992, working primarily with water quality issues from both a scientific and policy formulation standpoint. Significant work efforts in which he has been involved include the Great Lakes Water Quality Initiative, Crandon Mine Review, and Fox River/Green Bay Sediment Remediation. Before beginning with the Department, David earned two degrees from Indiana University, in Chemistry and Environmental Science.

## Message from David Webb

*"I am excited to work for the Laboratory Certification and Registration program. It is a fine program as it is; however, the significant resources expended towards potential NELAC accreditation set the program back a bit. The upside is that the combination of 're-starting' the program, and my beginning as section chief has provided an opportunity to take a bit of a fresh look at our systems and to identify potential changes.*

*"I can guarantee that I will seek as much input as I can in addressing issues germane to our section and the stakeholders and customers with which we do business. In terms of how we'll do business, I've heard a term used which I think captures the mode of operation I will seek: The term is 'Trust but Verify.' Some specific items we'll be addressing are closing-out open cases, fully re-instating the auditing program, forming a strategy for backlog management, increasing the degree to which technology is used to increase efficiency, and drafting standard operating procedures for the various components of laboratory certification.*

*"I very much look forward to talking with many readers of this newsletter, and I invite people to contact me to discuss issues or just to introduce yourself to me."*

## Program Goals

The Environmental Science Services section administers four key programs: Laboratory Certification and Registration, Operator Certification and Licensing, Quality Assurance, and Laboratory Services. These programs are key to many Agency functions and customers—both internal and external. We will strive to

*Continued on inside back cover.*

## LabNotes

### Newsletter of the Laboratory Certification Program

LabNotes is published twice annually by the Wisconsin DNR Laboratory Certification and Registration Program. For information about distribution or to make suggestions for future articles, contact the editor.

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This document is available electronically at [www.dnr.state.wi.us/org/es/science/lc](http://www.dnr.state.wi.us/org/es/science/lc).

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## LabNews

### Alaska Using Wisconsin MDL Guidance

The Alaska Department of Environmental Conservation recently asked for permission to post the Wisconsin *Analytical Detection Limit Guidance & Laboratory Guide for Determining Method Detection Limits*, WDNR Lab. Cert. Program April 1996 [PUBL-TS-056-96] on their web site. Alaska Laboratory Services staff stated that they found the guidance document to be a useful reference and have adopted it for use by the Alaska Underground Storage Tank and Drinking Water programs.

The MDL guidance can be downloaded from our web site. □

[www.dnr.state.wi.us/org/es/science/lc/download/Loddoc.pdf](http://www.dnr.state.wi.us/org/es/science/lc/download/Loddoc.pdf)

### NELAC Update

In January 2001, EPA's National Environmental Laboratory Accreditation Program (NELAP) announced the first group of 669 NELAP-accredited laboratories. Eleven states have adopted the NELAC standards to date (California, Florida, Illinois, Kansas, Louisiana, New Hampshire, New Jersey, New York, Oregon, Pennsylvania and Utah). The EPA notes that the labs themselves represent a much larger geographical cross section—38 states or territories and three foreign countries. □

### Electronic Submittal of Environmental Monitoring Data

The Department of Natural Resources is in the process of developing a means for electronic submittal of environmental monitoring data. A focus group staffed by DNR's Ron Arneson (608/264-8949) has been formed to advise the Department on this activity. Our web site has more information. □

[www.dnr.state.wi.us/org/es/science/lc/lab\\_data/](http://www.dnr.state.wi.us/org/es/science/lc/lab_data/)

### Lab Cert. Web Site Trends

The Laboratory Certification home page had between 300 to 450 visitor sessions per month in each of the last 12 months. The highest level of activity occurred during the summer prior to annual renewal. Web site visitors also spent

more time at the home page at that time of year, averaging over five minutes in June. The average visit was about 3.5 minutes during other times of the year.

The lab list page has also been very active, typically receiving 250 or more visitors monthly. Other popular Laboratory Certification web pages are publications and documents, low level mercury, the lab toolbox and links to other web sites. These pages all log over 100 visitor sessions per month.

If you have never visited the web site, give it a try. **Any comments on how we can better use this medium to serve the lab community would be appreciated.** E-mail your suggestions to our web master at [LabCert@dnr.state.wi.us](mailto:LabCert@dnr.state.wi.us). □

[www.dnr.state.wi.us/org/es/science/lc/](http://www.dnr.state.wi.us/org/es/science/lc/)

### New State of Wisconsin Web Site

The state of Wisconsin recently unveiled a new web site, [www.wisconsin.gov](http://www.wisconsin.gov). Some may bemoan the retirement of the venerable old "Badger" web site, but the look, feel and functionality of the new site are far superior. This new electronic gateway to Wisconsin State government and the many services it provides is sure to be a hit with web surfers. □

### Training and Seminars

The following training sessions will be offered in conjunction with the State Laboratory of Hygiene and the Wisconsin Rural Water Association. Contact Chris Groh at Rural Water (715/344-7778) for more information.

| Course/Seminar Name                            | Location | Date ('01)   |
|--|----------|--------------|
| Biochemical Oxygen Demand                      | Waupun   | May 24       |
| Quality Assurance – Part 2                     | t.b.a.   | August 9     |
| Phosphorus and Ammonia                         | Plover   | September 17 |
| Chemical Additions for Water Supply Monitoring | Ashland  | September 6  |
|  | Plover   | September 14 |
|  | Sparta   | October 11   |
|  | Valders  | October 18   |

As always, checking the training section on Rural Water's web page is highly recommended. The DNR Operator Certification web page is another excellent site for training information. □

[www.wrrwa.org](http://www.wrrwa.org) (Wisc. Rural Water Assoc.)

[www.dnr.state.wi.us/org/es/science/opcert/training.htm](http://www.dnr.state.wi.us/org/es/science/opcert/training.htm)

***Stora Enso North America Whiting Mill Laboratory and Blanchardville Wastewater Treatment Laboratory Honored by Natural Resources Board***

*Greg Pils, Laboratory Certification Program*

The Department is pleased to have recently presented the 2000 Registered Laboratory of the Year Awards to Stora Enso North America's Whiting Mill Laboratory and the Blanchardville Wastewater Treatment Laboratory. DNR Secretary Darrell Bazzell and Environmental Science Services Section Chief David Webb presented the Awards before the Natural Resources Board meeting on March 28. These awards were first presented in 1996, and recognize those laboratories that have developed exceptional systems for producing high-quality data. During the presentation, Secretary Bazzell emphasized that the data generated by these laboratories provides the foundation for many of the decisions made by the Department to conserve and protect Wisconsin's natural resources.

Stora Enso North America's Whiting Mill Laboratory, located in Stevens Point, was presented the Award for Large Registered Facility. Until recently known as Consolidated Papers, the facility performs BOD and total suspended solids (TSS) testing for Stora Enso North America's Whiting Mill, which is one of the State's largest paper producers.

The laboratory was honored for their mastery of the tests they perform, and for exceeding

baseline compliance requirements for quality control. All quality control testing for BOD and TSS is performed daily, and the range control limits associated with both tests are very demanding. For example, range control limits are 0.35 mg/L for BOD, when final effluent concentrations average 3-6 mg/L.

DNR Audit Chemist Rick Mealy nominated the laboratory for the Award, and was very impressed by Lead Analyst Greg Staven's approach to determining proper dilutions for BOD analysis. Mr. Staven uses his knowledge of the relationship between TSS and BOD in the plant's effluent stream to prepare dilutions that will meet oxygen depletion criteria while ensuring the lowest LOD possible. Mr. Mealy also noted that he was only able to identify a single, minor, deficiency during his on-site evaluation of the laboratory in February 2000.

"Stora Enso's Whiting Mill Laboratory," stated Mr. Webb, "exemplifies how Wisconsin's best industrial laboratories assist the Department in its mission of protecting and enhancing Wisconsin's natural environment."



*Joe Flanigan (left) and Tim Francois of Blanchardville WWTP shown with their Lab of the Year Award.*



*Dave Orcutt (left), Greg Staven (center) and Becky Wildenberg pose with Stora Enso's 2000 Lab of the Year Award.*

The Blanchardville Wastewater Treatment Plant Laboratory received the Small Registered Facility Award. The laboratory performs BOD and TSS testing in support of Blanchardville's wastewater treatment plant.

Mr. Webb noted that the laboratory has an established history of compliance with Department regulations, is a leader among small wastewater labs in the area of introducing

computerized data management systems, and, like the Stora Enso laboratory, was being recognized for exceeding minimum baseline requirements for regulatory compliance.

DNR Audit Chemist Brenda Howald nominated the Blanchardville laboratory for the award. In her nomination, she states that the laboratory only reports results if the associated quality control data meets very tight quality control limits, and that these limits are met routinely due to Lead Analyst and Operator Joe Flannigan's great attention to detail. Ms. Howald did not identify a single deficiency during her on-site evaluation of the laboratory this past September – truly an outstanding achievement, which is indicative of the quality of Mr. Flannigan's work.

DNR Basin Wastewater Engineer Jack Saltes adds, "Joe Flannigan is one of the premier wastewater plant operators in southwest Wisconsin. Joe is a true professional who has continually embraced new, stricter, more demanding regulations and channeled his energy into building an exemplary laboratory operation."

As Mr. Webb stated prior to presenting Mr. Flannigan with his award, "The Blanchardville Wastewater Treatment Laboratory shows how even small laboratories with limited resources and financial support can produce data of exceptional quality."

Nominations for the 2001 Registered Laboratory of the Year can be submitted by anyone—you don't have to be a DNR employee—and are due December 31, 2001. To obtain a nomination form, contact Greg Pils either by phone at (608) 267-9564, or via e-mail at [pilsg@dnr.state.wi.us](mailto:pilsg@dnr.state.wi.us). □

### ***Certification and Registration Fees for Fiscal Year 2002***

The Natural Resources Board unanimously approved the Laboratory Certification Program's proposed schedule of certification and registration fees for fiscal year (FY) 2002 at its March 28 meeting. At \$47.00, the cost per relative value unit will remain unchanged from FY 2001. Fees will remain \$658.00 for the typical wastewater treatment lab (registered lab base fee + categories 1-4) and \$2,773 for the

typical commercial lab (certified lab base fee + categories 1-8, 10, 12, & 14-16). This marks the first time since FY 1994 that the fee schedule will not increase from the previous fiscal year.

Bills will be mailed to all facilities in May and payment will be due in full by June 30, 2001. Labs will be charged a late payment fee for failure to pay by the established deadline.

For more information about how fees are determined, consult s. NR 149.05, Wis. Adm. Code, available on-line at the Revisor of Statutes web site. Please contact Greg Pils at (608) 267-9564 or by e-mail at [pilsg@dnr.state.wi.us](mailto:pilsg@dnr.state.wi.us) if you have any fee-related questions. □

<http://www.legis.state.wi.us/rsb/code/index.html>

### **Laboratory Fees for FY 2002 (Sept. 1, 2001 - Aug. 30, 2002)**

| <b>Fee Item</b>                   | <b>FY 2002 Unit Price</b> |
|-----------------------------------|---------------------------|
| Registered Base Fee               | \$470.00                  |
| Certified Base Fee                | \$705.00                  |
| Reciprocity Fee                   | \$1,410.00                |
| Initial Application Fee           | \$282.00                  |
| Revised Application Fee           | \$141.00                  |
| Category 1                        | \$47.00                   |
| Category 2                        | \$47.00                   |
| Category 3                        | \$47.00                   |
| Category 4                        | \$47.00                   |
| Category 5                        | \$94.00                   |
| Category 6                        | \$94.00                   |
| Category 7                        | \$188.00                  |
| Category 8                        | \$188.00                  |
| Category 9                        | \$188.00                  |
| Category 10                       | \$188.00                  |
| Category 11                       | \$188.00                  |
| Category 12                       | \$188.00                  |
| Category 13                       | \$188.00                  |
| Category 14                       | \$188.00                  |
| Category 15                       | \$564.00                  |
| Category 16                       | \$188.00                  |
| Category 17                       | \$564.00                  |
| Category 18                       | \$940.00                  |
| Category 18a (Nitrate Only)       | \$94.00                   |
| Category 18b (Nitrate & Fluoride) | \$188.00                  |
| Category 19                       | \$188.00                  |
| Category 20                       | \$1,222.00                |
| Category 21                       | \$188.00                  |

## **Regional Program Shuffle**

There have been a lot of changes to the Regional component of the Laboratory Certification and Registration Program since last fall. The DNR regional auditors are responsible for assessing labs certified or registered in test categories 1 through 4.

One new face you'll be seeing is that of Camille Johnson (see article below), who fills the long vacant slot in the West Central Region (Eau Claire). Don Domencich, a familiar personality in the Southeast Region, decided—after 30+ years—to relocate from Milwaukee to Sturgeon Bay. Don takes over in the Northeast Region for Linda Vogen, who was promoted to Regional “Water Expert.”

Central office audit chemist John Condrón has taken over the auditing duties in Don's old turf covering Southeast Wisconsin. Brenda Howald will continue to serve the South Central Region and Susan Watson the Northern Region.

Check the “Certification Staff” page of our web site for a full listing of staff in both the central office and the regions. □

[www.dnr.state.wi.us/org/es/science/lc/contacts.htm](http://www.dnr.state.wi.us/org/es/science/lc/contacts.htm)

## **New Regional Certification Officer**

Camille G. Johnson has been hired as the new wastewater lab auditor for labs located in the West Central Region, as well as the Northeast Region counties of Shawano, Waupaca, Waushara, Marquette and Green Lake. She is a permanent half-time employee based out of Eau Claire.

Camille has a Bachelors degree in Biology from Southern Illinois University, and a Masters degree in Aquatic Toxicology from University of Wisconsin-Stevens Point (UW-SP).

At UW-SP she worked as the manager of the Aquatic Toxicology Lab for three years. At that lab she was responsible for conducting a variety of analytical testing and bioassays. She also developed a quality assurance plan and obtained DNR certification for the lab.

More recently, Camille worked as a Wastewater Compliance Specialist for an environmental consulting firm. Prior to that, she also worked in an entomology (aquatic insects) lab, a coal characterization lab and as a water

resources lab instructor.

Her personal interests include many outdoor pursuits including cross-country skiing, hiking, camping, fishing and canoeing. Indoors she likes to read, do cross-stitch, baking and craft projects. She spends much of her free time with her husband Ted and two young children Bryce and Maggie.

As a lab auditor she hopes to provide technical assistance to laboratories, while ensuring compliance with regulations.

Please feel free to contact Camille with any questions or concerns you have. Please be patient when trying to reach her because she is part-time and often in the field doing audits. Her phone number is 715-831-3272; e-mail address [johnscg@dnr.state.wi.us](mailto:johnscg@dnr.state.wi.us); work address, 1300 W. Clairemont Avenue, Eau Claire, WI 54702. □

## **A Primary Customer Service Contact**

Phillip Spranger is the Certification Program Chemist in the Environmental Science Services Section in Madison.

Phillip is the primary customer service contact for the Laboratory Certification Program. He administers the Certification Program application process and reference sample requirements, staffs the Certification Standards Review Council, edits LabNotes, maintains the Program's web site and fills information requests from laboratories, DNR staff and the public.

Phillip joined the Bureau in October of 2000, after spending the three previous years as a public policy researcher and writer for the Wisconsin Taxpayers Alliance in Madison. Prior to that, Phillip spent five years working in DNR's Waste Management Bureau helping to implement the 1990 Recycling Law.

Phillip graduated Summa cum Laude from UW – Green Bay in 1991 with a Bachelor of Sciences in Environmental Science. He moved to Madison in 1992 to take an LTE position with the Department working on recycling markets development.

A lifelong outdoorsman, Phillip hunts and fishes, bikes to work and skis (both downhill and cross-country). Other interests include spending time with his family (he has nine nieces and nephews), vegetable gardening and traveling around Wisconsin, the U.S. and Europe. □

## Council Corner – March 2001

*David Kollakowsky, Council Chair*

By now I hope that most folks in the Wisconsin laboratory community are aware that DNR will not be applying for NELAP recognition at this time. In between the accompanying rejoicing and disappointment I would personally like to take the time to thank the members of the Department NELAC Implementation Team for their efforts and professionalism as well as the members of the Technical Advisory Committee and my counterparts on the Certification Standards Review Council for their time dedicated to this endeavor.

With this change of direction for the Laboratory Certification Program comes the opportunity to look at NR 149 in its present form and to address the need for updates. Mr. David Webb, the new Chief of the Environmental Science Services Section, is already in discussions with Laboratory Certification staff concerning the scope of change to be considered and how to integrate stakeholder participation into the process. I urge all of you who are impacted by NR 149 to keep abreast of new or proposed developments with the program. This can be done through publications like LabNotes, the Laboratory Certification web page, or through trade and professional organizations.

Another avenue available to you is through your representative on the Certification Standards Review Council. At right is a list of current Council members along with their contact information. This and more information is on the Laboratory Certification web page. Please note that several seats on the Council are currently open, which would allow you or someone you know to be involved in providing direction to the program. If you know of anyone who might have the appropriate affiliation and is interested in filling one of these positions please forward the name to Phillip Spranger, at (608) 267-7633 or to one of the Council members.

Finally, Council meetings are open to the public. Meeting dates are posted on the Lab Certification web page. I encourage you to attend one of the meetings and/or to participate in the process of evaluating NR 149 and proposed revisions when the opportunity presents itself. Both the Certification Program staff and the Council value your thoughts. □

## Council Update

*New Officers.* The Certification Standards Review Council elected the following officers at its February 15, 2001 meeting: Mr. David Kollakowsky, Chair; Mr. Paul Junio, Vice Chair; and Ms. Ruth Klee Marx, Secretary.

*Openings for Council Members.* Mr. Gilbert Williams, the Council representative for small wastewater treatment plants (less than 5 million gallons per day), will be leaving the Council effective May 18, 2001. If you work for a small wastewater treatment plant, are interested in serving on the Council and are able to attend four Council meetings per year (typically lasting around six hours) please contact Phillip Spranger at 608/267-7633 or one of the Council members listed below. Representatives for the Agricultural Interests and the Solid and Hazardous Waste Disposal Facility seats are also being sought.

*Next Meeting.* The next Council meeting is tentatively set for Thursday, May 17, 2001. Watch the Council page on the Laboratory Certification web site for more details. □

[www.dnr.state.wi.us/org/es/science/lc/council/](http://www.dnr.state.wi.us/org/es/science/lc/council/)

### Council Contact List

Agricultural Interests

Vacant

Commercial Laboratories

Mr. Paul Junio - (920) 261-1660

[pjunio@testamericainc.com](mailto:pjunio@testamericainc.com)

Demonstrated Interest

Ms. Marcia Kuehl - (920) 469-9113

[makuehl@aol.com](mailto:makuehl@aol.com)

Industrial Laboratories

Mr. David Kollakowsky - (414) 221-2835

[dave.kollakowsky@wepco.com](mailto:dave.kollakowsky@wepco.com)

Municipal Wastewater Plant (> 5 mgd)

Ms. Debbie Cawley - (920) 438-1073

[dcawley@gbmsd.org](mailto:dcawley@gbmsd.org)

Municipal Wastewater Plant (< 5 mgd)

Mr. Gilbert Williams - (608) 837-6292

[pmapple@itis.com](mailto:pmapple@itis.com)

Public Water Utilities

Ms. Ruth Klee Marx - (715) 842-7891

[rkmarx@mail.co.marathon.wi.us](mailto:rkmarx@mail.co.marathon.wi.us)

Solid and Hazardous Waste Disposal Facility

Vacant

State Laboratory of Hygiene

Mr. George Bowman - (608) 224-6278

[gtb@mail.slh.wisc.edu](mailto:gtb@mail.slh.wisc.edu)

## Program Administration

### ***Has Any Contact Information Changed?***

Have there been any changes to your laboratory contact information? It is important that we know of changes at your facility because it helps to maintain the lines of communication. Also, laboratories are legally responsible for notifying the Laboratory Certification Program whenever a transfer of ownership or name change occurs.

### **Transfer of Laboratory Certification**

The certificate of laboratory certification or registration is valid for the lab named on the certificate. If a lab changes names, the certificate should be transferred. A revised application and fee are then required.

When a change in lab ownership occurs, the certificate must be transferred to the new owner. Section NR 149.07(7) establishes a “60% test” to determine whether a lab may transfer the certificate to the new owner or must apply as a completely new laboratory.

The laboratory certification program must be notified in writing within 10 days of a transfer of laboratory ownership. If 60% or more of the laboratory equipment and analytical staff are retained by the new owner, a revised application and fee must be submitted within 40 days. The new owner must allow an onsite evaluation, must agree to correct any deficiencies identified by the department, and assumes responsibility for all open or pending enforcement actions initiated against the facility.

If less than 60% of a lab’s equipment and analytical staff are retained by the new owner, the laboratory is treated as a new lab. An initial application is required, including reference samples, IDC and MDL studies, and the initial application fee, test category fees and annual base fee.

For mailing address, phone number or contact person changes, notify us in writing at:

Laboratory Certification – SS/6  
PO Box 7921  
Madison WI 53707-7921.

For change of name or transfer of ownership, contact Phillip Spranger at 608/267-7633. □

### ***Work Without Certification***

In the last several months, the DNR’s Drinking Water and Waste Management programs began conducting automated checks of the certification status of laboratories submitting compliance data. This automation greatly increased the efficiency of reviewing data submittals. The good news is that after correcting reporting errors, program staff found a high rate of compliance with the requirement to use certified laboratories. However, a few parameters stood out as recurring problems: hardness, dinoseb, and organophosphorus pesticides.

### **Hardness**

Hardness is the key analyte in test category 05. Laboratories submitting hardness test results must be certified in this category. Certification for hardness requires analysis of a reference sample specifically for this test even when determining hardness by calculation. When using a calculation method, certification for magnesium (Mg) and calcium (Ca) are also required, including the analysis of Mg and Ca reference samples.

### **Dinoseb and Organophosphorus Pesticides**

Laboratories must be certified in test category 14 to submit analyses for many pesticide groups. Some labs thought certification in test category 12, semi-volatiles, was sufficient to be eligible to perform these analyses.

While dinoseb and organophosphorus pesticides can be determined using semi-volatiles GC/MS methodology, pesticides are specifically excluded from certification in category 12. This is because semi-volatile reference samples typically do not include pesticides and therefore, do not measure a laboratory's ability to successfully analyze these compounds.

If you have questions about pesticide certification, contact Alfredo Sotomayor at (608) 266-9257.

We recommend that you check your certificate to verify that your laboratory is certified for the analyses it currently performs. We also encourage you to check certifications before beginning new contracts. □

## PT Issues

### Reference Sample Requirements

Laboratories are required to analyze reference samples (also known as performance evaluation or proficiency testing samples) when applying for Wisconsin certification or registration and for annual renewal of that certification or registration. Reference sample requirements are a core element of Wisconsin's laboratory certification program. Reference sample performance is one component of a successful laboratory's quality assurance program.

### Wisconsin Requirements

*Approved Providers.* Laboratories must purchase samples from program-approved providers. When ordering samples from approved providers, indicate that samples are to be used for Wisconsin laboratory certification. The list of approved providers, updated in January 2001, was sent to all laboratories. This list is also available on the program web site. Alternatively, contact the laboratory certification program for a copy.

[www.dnr.state.wi.us/org/es/science/lc/download/](http://www.dnr.state.wi.us/org/es/science/lc/download/)

*Application.* When submitting initial or revised applications for laboratory certification, reference samples may be required. Reference sample requirements are detailed in the "Additional Information Required With Application" section. Reference samples submitted with an application must have been analyzed no more than six months prior to the date of application.

*Renewal.* Laboratories must annually achieve acceptable reference sample results for each test for which certification or registration renewal is sought. Reference samples for renewal must be analyzed after January 1 of that calendar year. This office must receive reports from reference sample providers by August 1. For example, if your laboratory wishes to renew its BOD certification for the period beginning September 1, 2001, you would have to analyze and pass a reference sample between January 1 and August 1, 2001. Although the current certification period ends August 31, 2001, the program needs sufficient time to generate and distribute certificates to the laboratory

community by September 1.

Please direct questions about reference sample requirements to Phillip Spranger, Laboratory Certification Chemist at (608) 267-7633 or [spranp@dnr.state.wi.us](mailto:spranp@dnr.state.wi.us). □

### DMR-QA 21 Update

Now that DMR-QA Study 20 is finally over, thoughts turn to the next study. As of the end of March, it is unclear when DMR-QA 21 will be held, although all indications are that the time frame will resemble that of last year. The toxicity portion of Study 21 is also up in the air. At the present time, there are no NIST-approved providers for toxicity samples. Without approved providers, the samples cannot be manufactured for regulatory purposes.

As a result, the Department makes the following suggestions for facilities participating in DMR-QA studies:

1. Analyze reference samples from a WDNR-approved provider for renewal of your laboratory certification or registration as soon as you are able. The results will be due by August 1, 2001 for the 2002 renewal cycle

2. Do not analyze reference samples for DMR-QA 21 until after you have received official notification from EPA (the "308 letter" that includes all of the forms for submittal). Samples analyzed before the opening date of the study cannot be accepted.

As soon as EPA makes information available to the states, permittees will be notified of study dates and logistics. Questions about DMR-QA, should be directed to Diane Drinkman at (608) 264-8950 or at [drinkd@dnr.state.wi.us](mailto:drinkd@dnr.state.wi.us). □

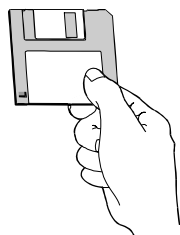
### A Word of Caution about Petroleum Standards

The Laboratory Certification Program has become aware of a potential problem for laboratories purchasing standards for the WI-specific protocols. At least one commercially-available mixture for WI-specific diesel range organics (DRO) is comprised of an incorrect blend of hydrocarbons (C10 – C20, rather than C10 – C28). If your lab is having difficulty with DRO analyses, double-check your standard to make sure you have the proper mix. □

## Reporting Compliance Data

### **Convention for Reporting Units**

A common data quality problem seen by DNR staff is reporting results in the wrong units. This is very noticeable when analytical results reported are orders of magnitude different from the "normal" range. This discrepancy may occur when laboratory results are reported in different units than those listed on the reporting forms or STORET codes and the results are not converted to the correct format. Limits for metals and organics in wastewater and groundwater monitoring are typically expressed in mg/L, so discharge monitoring reports (wastewater) and STORET codes (groundwater) use mg/L as defaults. The maximum contaminant levels (MCL) for the Safe Drinking Water program are expressed in mg/L, so reporting forms also use mg/L as defaults. □



### **Electronic Reporting - GEMS**

The Bureau of Waste Management can now accept electronic files in a comma-delimited format for the Groundwater and Environmental Monitoring System (GEMS). The Bureau has also developed an MS Excel worksheet template from which the comma-delimited format can be readily created. The Bureau hopes that the availability of these tools will encourage more facilities to submit reports electronically. The template and format instructions are currently available for download from the Laboratory Certification web page. Follow the link to the article entitled "Common Mistakes Found in Groundwater Monitoring Data Submitted to DNR". Questions about the comma-delimited format can be directed to Dennis Zuniga at (608) 267-0546 or [zunigd@dnr.state.wi.us](mailto:zunigd@dnr.state.wi.us), or Kathy Thompson at (608) 266-0867 or [thompk@dnr.state.wi.us](mailto:thompk@dnr.state.wi.us). □

[www.dnr.state.wi.us/org/es/science/lc/IndexCommonMistakes.htm](http://www.dnr.state.wi.us/org/es/science/lc/IndexCommonMistakes.htm)

## Wastewater Focus

### **Qualifying Data on DMRs**

*By Rick Mealy, Regional Audit Coordinator*

Perhaps the single most common deficiency auditors find when assessing industrial or municipal wastewater treatment plant laboratories is either the absence of, or only partial reporting of, quality control exceedances on the monthly discharge monitoring report (DMR). This is a requirement of the Laboratory Certification and Registration program and not doing it can be viewed as a violation of the WPDES permit.

One of the most frequent comments auditors hear is something along the lines of "If we note QC exceedances and add qualifier remarks on the DMRs, we just end up in trouble with the DNR." Nothing could be further from the truth. In fact, by not including QC exceedances or qualifier information, environmental decision making may be compromised. Another simple fact is that even a typical wastewater laboratory that performs testing for only BOD and total suspended solids (TSS) should be analyzing quite a few quality control samples in the course of a month. With all these types of samples, there is a good statistical probability that something will fail to meet acceptance criteria.

Qualified data does not necessarily mean bad data. Perhaps historically such a connection was made, on occasion, leading to a notion that the best practice was to eliminate any mention of QC exceedances or data qualifiers. In fact, area engineers rely on these qualifiers to make decisions regarding the useability of the data. In some cases, the decisions made by the area engineer could mean that a specific data point (or points) are excluded from the calculation of monthly averages. The bottom line, however, is that if you do not alert the area engineer to this data, invariably, all data will be used in calculations.

Certainly, if your DMR contains a significant number of exceedances (especially for a specific quality control parameter), there is cause for concern about the quality of data being generated. In these situations, the area engineer should work with the regional or central office

auditor responsible for the laboratory to assist the facility in determining the source of the problem, and implementing a corrective action plan.

The following are answers to some frequently asked questions regarding qualifying data on DMRs:

*How do I qualify data correctly on the DMR?*

At the bottom of each column, for each test parameter you report on the DMR, is a box labeled “QC Exceedances”. If any QC exceedances were experienced for that parameter in the month for which you are reporting results, this box must be checked. This alerts your facility’s area engineer to data that might be worth looking at more carefully.

*What constitutes a “QC Exceedance?”*

Any time you analyze a QC sample—of any type—and fail to meet the associated acceptance criteria, then you have a QC exceedance. Of course, this means that for each QC sample, you must have established acceptance criteria that meet the requirements of section NR 149.14 Wis. Adm. Code.

Things that might constitute a QC exceedance include:

- A DO depletion greater than 0.2 mg/L in the blank associated with BOD testing,
- A glucose-glutamic acid (GGA) standard result that falls outside of  $198 \pm 30.5$  mg/L,
- A replicate (duplicate) that exceeds well-established control limits,
- A matrix spike that exceeds well-established control limits,

- A known standard that exceeds 90-110% of true value, and
- Method blanks that exceed the greater of: (1) The limit of detection (LOD), (2) 5% of the regulatory limit for that analyte, or (3) 5% of the measured concentration in the sample.

*What do I put in the box labeled “Laboratory Quality Control Comments?”*

First, this box may not provide enough space. If that’s the case, then attach a separate sheet and indicate in the box that an additional sheet is attached. You need to do two things here: (1) provide as much information as possible to help the area engineer evaluate the extent to which a given exceedance affects data, and (2) identify the data that is affected. This is not a situation where the old adage, “less is more” applies.

For example, a glucose-glutamic acid (GGA) standard result exceeds acceptance criteria on the 12th of the month. A qualifying statement of “Failed GGA on April 12, 2000”, does not provide enough information to evaluate the data. The engineer needs to know whether the GGA failed on the high side, or the low side, and by how much. By indicating that the GGA result in question was 230 mg/L, the engineer can tell that the result was high, but only to a small degree. By knowing that it failed on the high side, he/she would conclude that the potential exists that data analyzed during that period might be biased slightly high—perhaps due to contamination.

Last, but not least, since GGA analysis is required weekly, you need to indicate that the affected data was all that generated since the last acceptable GGA sample, which presumably was April 5th (one week earlier). □

*Continued from **Dirty Dishes** on page 12.*

**Table II. Reagent Grade Water Specifications**

| Water Type | Bacteria CFU/mL         | pH            | Resistivity, megohm-cm at 25C | Conductivity $\mu$ mho/cm at 25 C | SiO <sub>2</sub> , mg/L | Particulate matter  | Organic contaminants                                     |
|------------|-------------------------|---------------|-------------------------------|-----------------------------------|-------------------------|---------------------|--|
| I          | < 10 bacteria-free best | Not specified | > 10                          | < 0.1                             | < 0.05                  | 0.22 $\mu$ m filter | Activated carbon pre-treatment & possibly post-treatment |
| II         | < 1000                  | Not specified | > 1                           | < 1                               | < 0.1                   | Not specified       | Not specified  |
| III        | Not specified           | 5 - 8         | 0.1                           | 10                                | < 1                     | Not specified       | Not specified  |

# Feature Article

## Dirty Dishes

### Glassware Cleaning Procedures

*By Camille Johnson, West Central Region Auditor*

No one likes to do the dishes, but in a lab they are very important (clean dishes at home are important too)! If you start with contaminated glassware, you may have excellent analytical techniques and still get flawed results. How do you clean your dishes (glassware)? The procedures being used can vary from cleaning with only a bleach solution followed by 10 rinses of distilled water to a self-made mixture of chromic and sulfuric acid (not a safe method). This article addresses uniform and better glassware cleaning practices.

By using method blanks and duplicates you may have identified that you have problems that are related to improper glassware cleaning. However, even if you aren't experiencing quality control problems I suggest you review the procedures below as well as method specific procedures to make sure that you are preparing your glassware correctly.

### Standard Operating Procedures

For each analyte, you should determine the correct cleaning processes from this article as well as the specific approved method (e.g. Standard Methods) and document those processes in a standard operating procedure tailored to your lab.

A standard operating procedure assures that all lab personnel are following the same process (and can serve as a reminder if you forget the procedure). It is helpful to have a one-page copy of the procedure that is laminated and stored conveniently in the lab. A copy can also be included in the facility's quality assurance manual.

### Tubing

In addition to glassware, you should also consider the cleanliness of your water storage carboys and delivery tubes as well as the automatic sampler tubing. Water delivery tubes should be disinfected weekly with a 2 to 3%

bleach solution, while sampler tubing should be cleaned with a bleach solution or replaced whenever there is a noticeable buildup. To clean tubing, flush with bleach solution, then allow to sit filled with a bleach solution for at least 15 minutes (this can be done by siphoning the solution into the tubing and maintaining the siphon by placing both ends into the solution). After 15 minutes flush with tap water, rinse three times with distilled water and then three times with dilution water before using.

### Washing Tips and Safety

Always wash brand-new glassware thoroughly before use. Before handling or washing glassware be sure to wash your hands thoroughly. This is particularly important if you are a smoker and you are responsible for phosphorus testing. Tobacco contains high levels of phosphorus. Smoking will leave significant amounts of phosphorus on your hands and clothes, which will contaminate your glassware if handled improperly. In general, it is a good idea to wear neoprene, vinyl or latex gloves when washing glassware for both personal protection and to prevent glassware contamination.

Do not use excessively strong acids or solvents unless specifically required for the analyte you are testing. A good rule of thumb is to monitor your method blank results. Consider reducing the acid concentration or reducing the amount of solvent used to rinse your glassware if blank data do not show contamination problems. Remember, the more acid or solvent you use, the more hazardous waste you will need to handle. If you must use acids or solvents, always use them in a fume hood or under a venting system designed to remove vapors (i.e., slot vent, powered snorkel, etc.).

Always wear gloves and safety glasses (goggles are preferred) when washing with strong detergents, acids or solvents. Remember to wear gloves appropriate for the particular acid or solvent used. In general, neoprene gloves work well for acids and lab grade detergents. However, when using solvents, you must match the glove type to solvent used. For example, nitrile, neoprene and zetex are often recommended for solvents. However, be aware that these gloves will not work with all solvents and in some cases can contribute organic contaminants if not carefully matched. Some

solvent resistant gloves can also make glassware handling a bit awkward and can pose a safety hazard as well. Gloves are still highly recommended providing they are carefully matched to the application.

### Method-specific cleaning procedures

General glassware cleaning procedures are outlined by analyte group in Table I (below). Please be sure to reference the specific method you are using and follow its directions if they are different in any way from those listed here. Some tests have very specific glassware requirements; this is meant as general advice only.

### Reagent Grade Water

Reagent grade water used for rinsing glassware should be of the quality required for the specific analytical method. Standard Methods recognizes three grades of water. Reagent grade water can be prepared using any purification method that is capable of producing water that meets the standards. Keep in mind that water purification systems that are not well maintained can add contaminants to the water. Table II (see page 12) outlines the reagent water

specifications given in the 19th Edition of Standard Methods. The American Society of Testing and Materials (ASTM) has specifications for four grades of reagent water and they are not exactly equal to those in Standard Methods. For most analytical work, Type I or Type II water is desirable.

### Conclusion

This should help you tackle all those dirty laboratory dishes and maybe you can get someone else to do all the dishes at home! Remember if you clean your glassware properly, then all of your other efforts to produce quality data will prove much more fruitful. Also, be sure to include method blanks to identify contamination when running analyses.

### References

Glassware cleaning guidance materials provided by George T. Bowman of the State Lab of Hygiene, Madison, Wisconsin.

*Standard Methods for the Examination of Water and Wastewater*, 19th ed., 1995. American Public Health Assn./American Water Works Assn./Water Pollution Control Federation. □

**Table I. General Glassware Cleaning Procedures**

| Analyte Group          | Suggested Cleaning Process   | Special Considerations  | Examples of Analytes in This Group  |
|------------------------|--|---|---|
| Nitrogen or Phosphorus | Wash thoroughly with a non-phosphate lab-grade detergent, rinse three times with tap water, rinse with a 10% hydrochloric acid solution, rinse <u>three</u> times with reagent-grade water, air dry inverted.    | Phosphorus glassware should be stored and used separately from other glassware to prevent contamination. If after washing, glassware is filled with water until needed, acid treatment is required only occasionally. Store in a covered, clean and dry area. | NO <sub>3</sub> , NO <sub>2</sub> , NH <sub>4</sub> , TKN, Total Phosphorus, Orthophosphate |
| Minerals & BOD/CBOD    | Wash thoroughly with a non-phosphate lab-grade detergent, rinse <u>three</u> times with tap water, rinse <u>three</u> times with reagent-grade water, air dry inverted.  | Store in a covered, clean and dry area. For colorimetric Bromide testing rinse with a 1 + 6 HNO <sub>3</sub> solution after washing with detergent; follow with three rinses each of tap and Type I water.  | Alkalinity, Bromide Chlorides, Cyanide, Solids (TSS), pH, Sulfates, BOD, CBOD               |
| Oil & Grease           | Wash thoroughly with a non-phosphate lab-grade detergent, rinse <u>three</u> times with tap water, <u>three</u> times with reagent-grade water, oven dry and rinse with the solvent type to be used in the test. | Be sure to rinse with the same solvent as will be used in testing immediately before use to prevent contamination. For HEM, boiling flasks that will contain the extracted residue are dried in an oven at 105 - 115 C, and are stored in a desiccator.       | Freon Extractable Oil and Grease, Hexane Extractable Materials (HEM)                        |

## Feature Article

### **Measure for Measure: Some Thoughts on Assessing Systems**

*Alfredo Sotomayor, Senior Audit Chemist*

I am told that the world is divided, although I am not sure in what proportion, into "big picture" and "small picture" people. Big picture people are visionary, own ideas and concepts, and can detect form in the most convoluted landscape. But many believe that big picture people are "flakes", deal in generalities, do not have the discipline necessary to follow intricacies, and that lacking specialized knowledge, make a virtue of their ignorance, masking it under a characteristically "fuzzy" term.

Conversely, "small picture" people are good at details, have intimate knowledge of their subject matter, are careful, and respect boundaries. But "big picture" people often think that "small picture" people miss the forest for the trees, lack perspective, obstruct progress, and retreat into analysis when their need for security is threatened.

Some assessors, having been trained in the exacting disciplines of analytical chemistry or microbiology, tend to have a healthy respect for detail and measure their competence by the amount of minutiae at the tip of their tongues or their fingers. Small picture, you may say, but if you work in a laboratory and, skipping the third deionized water rinse of your glassware, you find the metal blanks to be higher than normal, then you have ample evidence to justify your attention to detail.

This is I believe at the heart of the distrust that some auditors and assessors feel toward the "systems" approach to auditing. Because most good auditors have served substantial stints at environmental laboratories, attention to detail is ingrained in these assessors, and it is easy to understand their disconcert, when knowing that contact time between a derivatizing agent and extract is crucial to generating reproducible results, they are now supposed to evaluate the personnel training files of an organic chemistry unit to determine whether the unit can produce defensible data. Analysts and technicians often complain about auditors that do not take time to

ask them questions about critical method elements.

And yet the old saw, "all assessors audit to their area of expertise", cannot be denied and undue attention to a specific area to the detriment of others is not a complete evaluation of a laboratory's ability. If after spending a whole afternoon evaluating an analyst's performance of a method for VOCs, an assessor neglects to discover that when things get busy, the laboratory subcontracts samples to an uncertified laboratory and ships them without refrigeration, then this lack of perspective will not provide an accurate assessment of the quality of the data reported by the laboratory.

### **The Big Q**

Quality experts distinguish between managing for quality in all business processes and products (Big Q) and managing for quality in a limited capacity (little q), as when a factory product is checked and verified to meet a specification. The best laboratories emphasize the A (assurance) in QA and establish systems that go beyond end of the line quality control. It makes sense then to evaluate laboratory systems to determine whether they indeed can ensure data quality. Most assessors, auditors, and analysts will agree that well-established quality systems improve defensibility, which is crucial for environmental regulatory work. That in itself is a powerful reason for auditors and assessors to review systems. But even when a need for defensibility is not the primary reason for implementing a quality system, reviewing systems is appropriate and is more efficient when:

- Multiple, conflicting, or evolving specifications and processes exist for arriving at an end product.
- Statistical sampling of the end product is impossible or impractical.
- The people generating the end product are not always the same or are likely to change in cycles.
- One needs to attribute a cause to a problem.

While all laboratories can benefit from establishing quality systems, implementing them and of course assessing them is crucial for commercial laboratories with a broad client base, industrial laboratories analyzing regulatory

samples from diverse geographical locations, and government laboratories, which sometimes are expected to act as analytical referees.

### Does This Come in Teal in a Large?

One size does not fit all. Environmental data is not all black or all white. Even laboratories that only use a single analytical method to generate results have to customize analyte lists, and detection and reporting limits for different clients. In how many ways does your laboratory report results for methylene chloride or lead?

When there are so many possibilities for generating the "same" analytical result, it makes sense for auditors to spend time determining how a laboratory translates clients' wishes, including those prompted by regulations, into method choices and actual report formats. Tracking a single result might assess the accuracy of the datum, but reveals little about how a laboratory chooses available options for reporting data. And because users' needs vary from year to year or project to project, tracking a specific datum may not be a good predictor of future performance.

Also, because different analytical techniques have their own virtues and peculiarities, findings applicable to one might not be to another. When few inferences about quality can be made by examining a single process or a single datum, two options are available to assessors: examining many more processes and data; or coupling a more moderate sampling of methods and data with a thorough assessment of systems that are used to validate method selection, and data reporting. The latter is more efficient and can be more conclusive when the frequency, length, and scope of audits are by necessity, limited.

### One Bad Apple

Contrary to what is common in the manufacturing industry, where selecting a number of products at random can be used to determine the quality of the process used to make them, selecting results from several samples does not necessarily reveal much about the degree of control of an analytical procedure. One of the arguments laboratories make against using matrix spike data to qualify an analytical batch, or to make inferences about system control, is that each sample is really truly unique and that therefore it is not justified to extrapolate the

behavior of a fortified sample to any others.

This does not mean that thoroughly evaluating the results of one analysis is worthless, but it does mean that any conclusions one can draw about a result cannot always be assumed to apply to others. Under these circumstances, it makes a lot of sense to evaluate quality systems, including system control indicators, and then to confirm this evaluation by examining a few instances showing the system in action. The order here is important: the system is evaluated first to determine whether it can correctly accommodate the individual.

**Most assessors, auditors, and analysts will agree that well-established quality systems improve defensibility.**

### Bridge Over Troubled Water

In times of flux or turmoil a quality system can provide needed structure. Bona fide quality systems emphasize documentation, training, and acknowledgments. Evaluating a quality system in operation can increase an auditor's confidence that a laboratory can still produce accurate and defensible results even when personnel turnover is high or at times when multiple shifts operate.

Traditionally, assessors and auditors do not pay much attention to statements attesting that technicians understand a procedure and are performing it as required by approved documents. I am interested in changing that lack of emphasis. These documents can start a trail of responsibility and can help regulatory agencies make laboratories more accountable for their own compliance. If training is paramount to the correct execution of a method, then examining training records can help to determine how well a laboratory might be analyzing samples. And if comparability demands that methods be consistently performed, assessors should not only pay attention to the content of SOPs, but also to the process used to draft, approve, review, and disseminate them.

### Accidents Can Happen

How do you determine the causes of failures? In spite of everybody's best efforts, problems arise and results go awry. But sometimes problems crop up for other reasons. Just like in

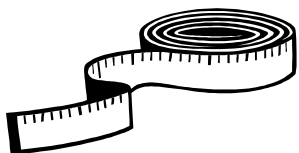
*Measure for Measure, continued.*

statistics, laboratory systematic errors are controllable and can be minimized, while random noise cannot be eradicated. Assessors encountering non-conformance are kinder when it arises from random phenomena. To determine this, auditors need to verify that a quality system has been established and that its adequacy is reviewed periodically. Another way of stating this is that unless you have established a quality system, it will be harder for you to prove to an assessor that data problems are not the result of systematic errors. Auditors and assessors must therefore evaluate quality systems to make sure that when bad things do happen, they happen mostly by chance and not neglect. Without a systems (read systematic) analysis, it is difficult to determine the root causes of encountered problems.

**Induction or Deduction?**

Induction is at the heart of the scientific method. Repeated observation of instances leads to the formulation of laws and axioms. This perhaps explains why many of us find it so natural to go from the specific to the general. And yet we have all been tempted to conclude that "twice is always" when resources are limited to conduct a thorough investigation.

Systems assessment upturns this familiar order and, relying on deduction, reviews established general structures to reach conclusions about specifics. Each approach is valid at different times. In reality, all good auditors use a combination of both to assess laboratories. Traditionally, method-bound regulations favor assessing the detail. But as more regulations depart from this model, and as more methods become guidance, the more we will have to rely on structures and systems to assess conformance and to determine compliance. This will require from assessors a change of focus: from the microscopic detail of the little picture, to the panoramic view of the big one. □



## Regulatory Issues

### **Private Well Monitoring Around Landfills**

A number of laboratories have had questions about choosing methods of analysis for samples originating from private wells around landfills. The analytes of interest for these samples are listed in NR 507, Appendix III. However, NR 507 also indicates that all water supply samples are to be collected, handled and analyzed in accordance with the procedures in NR 809.

This means that the required methods for most VOCs to be analyzed in private well samples collected around landfills are 502.2 and 524.2. Dibromochloropropane (DBCP) and ethylene dibromide must be analyzed either by method 504.1 or 551. These requirements apply unless a "Plan of Operation" specifies different methodology. If that is the case, the "Plan of Operation" takes precedence over the Code.

Regardless of the method required, the maximum allowable detection limits specified in NR 809 apply (vinyl chloride 0.3 ug/L, EDB 0.02 ug/L, DBCP 0.01 ug/L and other VOCs 0.5 ug/L). All detected results must also be reported. For more information, contact Donalea Dinsmore by phone at (608) 266-8948 or by e-mail at [dinsmd@dnr.state.wi.us](mailto:dinsmd@dnr.state.wi.us). □

### **New "Clean" Mercury Method to be Mandated**

Elevated mercury levels in fish and their associated health effects continue to get media attention. Interest in protecting the public from mercury poisoning very likely means that more wastewater dischargers will have numeric limits placed in their permits. In June 1999, EPA promulgated Method 1631, a method for measuring low levels of mercury in water. Method 1631 has a stated method detection limit of 0.2 ng/L.

The method's approval has made the Department reconsider its May 1996 Mercury Strategy, which relied on the premise that approved analytical methods were not sensitive enough to quantify effluent levels. The Department recently convened an advisory committee to revise the Mercury Strategy. The

committee has representatives from commercial laboratories, large and small municipal treatment plants and industry groups, among others.

Minimizing contamination during sampling takes on great significance with this method. To facilitate the collection of clean samples, EPA and the Department will sponsor a mercury sampling and testing workshop in June. Permittee and laboratory staff will be invited to attend. Any laboratories interested in performing mercury testing of wastewater should plan to have a representative attend this seminar. Details will be provided on the Lab Certification web site when they become available. For questions, please contact Tom Mugan at (608) 266-7420 or by e-mail at [mugant@dnr.state.wi.us](mailto:mugant@dnr.state.wi.us). □

[www.dnr.state.wi.us/org/es/science/lc/](http://www.dnr.state.wi.us/org/es/science/lc/)

## Regulatory Update

### Safe Drinking Water Act

*National Primary Drinking Water Regulations; Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring, published in the Federal Register on January 22, 2001*

This rule establishes a health-based, non-enforceable Maximum Contaminant Level Goal for arsenic of zero and an enforceable Maximum Contaminant Level for arsenic of 10 ug/L for public water systems. In addition, it clarifies monitoring and demonstration of compliance for new systems or sources of drinking water. It also clarifies compliance for State-determined monitoring after exceedances for inorganic, volatile organic and synthetic organic contaminants. Finally, it recognizes the State-specified time period and sampling frequency for new public water systems and systems using a new source of water to demonstrate compliance with drinking water regulations.

The effective date of May 22, 2001 was delayed from January 22, 2001. The amendment to Sec. 141.6 in this rule is also effective May 22, 2001. Amendments to Secs. 141.23(i)(1), 141.23(i)(2), 141.24(f)(15), 141.24(h)(11), 141.24(h)(20), 142.16(e), 142.16(j), and 142.16(k) are effective January 22, 2004.

*Revisions to the Interim Enhanced Surface Water Treatment Rule (IESWTR), the Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR), and Revisions to State Primacy*

*Requirements To Implement the Safe Drinking Water Act (SDWA) Amendments, published in the Federal Register, January 16, 2001*

This final action makes minor revisions to the Interim Enhanced Surface Water Treatment Rule (IESWTR) and the Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR) that were published December 16, 1998 and the Revisions to State Primacy Requirements to Implement Safe Drinking Water Act (SDWA) Amendments (Primacy Rule) published April 28, 1998. This action also extends the use of new analytical methods to compliance monitoring for long-standing drinking water regulations for total trihalomethanes. Effective February 15, 2001.

*Unregulated Contaminant Monitoring Regulation for Public Water Systems; Analytical Methods for List 2 Contaminants and Clarifications; Proposed Rule. Published in the Federal Register January 11, 2001*

This rule proposes analytical methods for fourteen contaminants on List 2, EPA methods 526 and 528, and to require monitoring for those contaminants in drinking water. These methods and associated monitoring are proposed to support EPA decisions concerning whether or not to regulate and establish standards for these contaminants in drinking water. Additionally in this rule, EPA proposes modifications to the UCMR (published September 17, 1999) that affect the implementation of monitoring for List 1 & 2 contaminants. Effective January 11, 2001.

### Clean Water Act

*Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; National Primary Drinking Water Regulations; and National Secondary Drinking Water Regulations; Methods Update. Published in the Federal Register January 16, 2001*

EPA is approving the use of updated versions of analytical methods for the determination of chemical, radiological, and microbiological pollutants and contaminants in wastewater and drinking water. These updated versions of analytical methods have been published by: American Society for Testing Materials, United States Geological Survey, United States Department of Energy, American Public Health Association, American Water Works Association, and Water Environment Federation.

Previously approved versions of the methods remain approved.

Effective May 16, 2001 without further notice, unless EPA received adverse comments by March 19, 2001.

*Protection of the Stratospheric Ozone: De Minimis Exemption for Laboratory Essential Uses for Calendar Year 2001, Direct Final Rule. Published in the Federal Register March 13, 2001*

Although EPA has issued a "blanket exemption" for lab essential uses of ozone depleters (including carbon tetrachloride and Freon-113) for 2001, it appears that EPA will be proposing language which eliminates the approval of traditional oil and grease methods (413.1, 413.2 and 418.1) and replacement with method 1664A, HEM, for regulation of oil and grease in CWA-regulated discharges. EPA will

propose that methods for oil and grease will no longer be considered "essential" for calendar year 2002, and newly-produced freon-113 will not be available for these test methods. Guidance documents on this test method are available on the EPA web site. □

[www.epa.gov/ost/methods/oil.htm](http://www.epa.gov/ost/methods/oil.htm)

## RCRA

*Waste Management System; Testing and Monitoring Activities; Notice of Availability of Draft Update IVB of SW-846. Published in the Federal Register November 27, 2000.*

EPA provided opportunity to comment on, "Draft Update IVB" to the Third Edition of the methods manual, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA publication SW-846. The Department submitted comments to EPA in February 2001. Final promulgation is pending. □

## Substances of Concern at Low Levels

Spring! Time for fans of the Chicago Cubs to start convincing themselves that this will finally be THE year, and time for the Laboratory Certification Program to publish its annual list of substances of concern at low levels. This list is published as a reminder that laboratories are required to report all data down to their limit of detection (LOD). All results greater than the LOD but less than the limit of quantitation (LOQ) must be reported and appropriately qualified (consult NR 149 for definitions of the LOD and LOQ). Be aware that some programs may require laboratories to report the results for all compounds down to the LOD, even if they do not appear on this list. Check with your clients to determine what reporting requirements apply. Labs may wish to institute the practice of always reporting all results down to the LOD, thereby avoiding confusion and insuring reporting requirements are always met. □

### INORGANICS

#### Metals

Antimony  
Beryllium  
Cadmium  
Lead  
Thallium  
Mercury  
Chromium (Hexavalent)

#### ORGANICS

#### Acids/Phenols

Pentachlorophenol (PCP)

#### Benzidines

Benzidine

#### Haloethers

Bis(chloromethyl)ether

#### Nitroaromatics

2,4-Dinitrotoluene  
2,6-Dinitrotoluene

### ORGANICS

#### Polynuclear Aromatic Hydrocarbons

Benzo(a)pyrene

#### Phthalates & Adipates

Di(2-ethylhexyl)phthalate

#### Nonpurgeable Chlorinated

#### Hydrocarbons

Hexachlorobenzene

#### Dioxins/Furans

Dioxin

#### PCBs

Polychlorinated biphenyls

#### Chlorinated Pesticides

DDT and Metabolites

Heptachlor

Heptachlor epoxide

Lindane

Toxaphene

#### Carbamate Pesticides

Aldicarb

### ORGANICS

#### Nitrogen Pesticides

Alachlor

Dimethoate

Parathion

Trifluralin

#### Volatiles

1,1,2,2-Tetrachloroethane

1,1,2-Trichloroethane

1,3-Dichloropropene (cis/trans)

Bromodichloromethane

Bromoform

Bromomethane

Chloroform

Chloromethane

Methyl tert-butyl ether (MTBE)

Methylene Chloride

Vinyl Chloride

Dibromochloropropane (DBCP)

Ethylene dibromide (EDB)

*Regulatory Issues, continued.***Hazardous Waste Ignitability & Reactivity Testing**

Since the publication of the article on ignitability of solids (LabNotes, Fall 1999), EPA has developed Method 1050, "Test Methods to Determine Substances Likely to Spontaneously Combust" and Method 1040, "Test Method for Oxidizing Solids" which were included in Update IVB of SW-846. These draft methods have yet to be promulgated for use under NR 149.

[www.epa.gov/sw-846/up4b.htm](http://www.epa.gov/sw-846/up4b.htm)

Where does this leave a laboratory? EPA guidance says, "Most generators of reactive wastes are aware that their wastes possess this property and require special handling. This is because such wastes are dangerous to the generator's own operations and are rarely generated from unreactive feed stocks." Laboratories can assist by helping generators to assess whether their experience handling the waste leads to a conclusion that it meets one of the reactivity properties. Also, for commercial products, laboratories can assist the client in interpretation of Material Safety Data Sheet information relating to reactivity characteristic properties.

An article on this topic is on the Laboratory Certification web site. If you would like a paper copy, please call Phillip Spranger at (608) 267-7633. Specific questions on this issue should be directed to David Parsons, DNR Waste Management Program at (608) 266-0272. □

[www.dnr.state.wi.us/org/es/science/lc/download/ignite.pdf](http://www.dnr.state.wi.us/org/es/science/lc/download/ignite.pdf)

*Goals and Vision, continued from page 2.*

maximize the utility of our program functions to all our internal and external customers. We will market our services to better serve all that may benefit. We will draw on all our resources to continuously improve our systems, striving towards providing the highest quality service.

**Program Vision****Customer Service**

Servicing both our internal and external customers with the highest degree of competency and professionalism is the foundation of all four of the programs administered within the ESS section. We listen to our customers, are responsive to their needs to the extent the law allows, and reconcile their input to the greatest extent possible.

**Commitment to Process**

We adhere to the provisions of all governing administrative codes, State statutes, and internal process/guidance documents. We strive to achieve and maintain consistent and standard application of program requirements. We have written procedural guidance documents and standard operating procedures for the major functional responsibilities of our section.

**Execution**

We are diligent in adherence to our processes and hold ourselves accountable to our agency and our customers.

**Communication/Trust**

We have systems in place to encourage communication with our internal and external customers and stakeholders. Program staff share ideas, execute program goals, avoid misunderstandings, address appropriate issues, and track progress. We strive to build trust among our colleagues, peers, and customers. □

**Changes at the Top**

Recently, program staff have been asked many questions about how Darrell Bazzell's recent appointment to DNR Secretary will affect the Laboratory Certification Program. The answer, at least for the foreseeable future, is that no perceptible changes are anticipated, and that things here should be business as usual. In recent correspondence to DNR staff, Secretary Bazzell asked that we assure our stakeholders that DNR is stable, will continue to run on science and by the rule of law, and will continue to be effective and strong in our commitment to the state's natural resources and environment. □



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